foremen are a class growing gradually into importance, both as to numbers and influence; it is right it should be so, as self-respect united to a spirit of pride in one's order are the strongest preservatives of independence, and, therefore, we are glad to see an institution set on foot to encourage this. The surplus funds are to be appropriated to the object of providing an asylum for the aged and decayed, and, likewise, to render some assistance to the widows and orphans of deceased members.

ON THE ART OF MAKING GLASS.

The origin of the art of making glass, like that of many other valuable inventions, is probably due to chance. Pliny relates that it was first accidentally discovered in Syria, by some travellers, whilst dressing their food. For this purpose they made a fire on the ground, where there was a large quantity of the plant kali, which was thus burnt to ashes, and its salts being incorporated with the sand, it became vitrified. The inhabitants of the neighbouring city of Sidon availed themselves of this discovery, and soon brought the art into use. However the correctness of this account of the discovery may be questioned, it is certain that the most ancient glass-houses with which we are acquainted were erected in Tyre, which was for many years the staple of that manufacture; and, as it is scarcely possible to excite an intense fire, as is frequently necessary in metallurgic operations, without vitrifying some part of the bricks or stones of which the furnace is composed, we may easily conceive that the hint of making glass may have been thus accidentally furnished.

The information to be collected from ancient writings respecting the manufacture of glass is very scanty. It is not supposed to have been made at Rome before the reign of Tiberius, at which period an artist discovered the means of rendering it flexible, and we learn that he was put to death on account of his invention. Various utensils of glass were found amongst the ruins of Herculaneum, which was destroyed in the first century of the Christian era, but these were most probably imported from the East; and although it has been conjectured from the circumstance of a plate of glass having been found there, that glass windows were at that time in use, yet the first positive mention of them does not occur until more than two hundred years later.

It appears, however, that the art of making glass was understood in Britain before the Roman invasion, for thick rings of glass were at that period found in the island. They were called by the natives glass adders, and it is not improbable that they were distributed by the Druids as amulets. Some of these are still occasionally found in various parts of the country; they are of different colours, and a few of them curiously streaked, and we have the authority of historians that domestic utensils were formed of the same metal.

We are told by the Venerable Bede, that artificers, skilled in making glass for windows, were first brought into this country from the continent in the year 674, and were employed in glazing the church of the monastery at Wearmouth. But the art was not generally practised, and the luxury of such windows was slowly adopted, for it was not until a century after the Norman conquest that they began to be used in private houses, and even then they were considered as marks of great magnificence.

The general manufacture of glass was not commenced in England until the middle of the sixteenth century, at which time the principal works were in Crutched Friars; but the finer sort of flint-glass was first made at the Savoy-house in the Strand. Considerable improvements were made about the year 1635, when a patent was granted to Sir Robert Mansell, who also possessed a monopoly of the importation of Venetian drinking glasses, the art of making which was not brought to perfection in this country until the reign of William III. The first plate-glass was made in 1673 at Lambeth, and this manufacture was introduced by the Duke of Buckingham, who for that purpose brought over several Venetian workmen.

YORKSHIRE ARCHITECTURAL SOCIETY.

On Thursday week, the members of this society held a meeting at the Court House, Rotherham, when a highly interesting paper was read by the Hon. and Rev. W. Howard, Rector of Whiston, on Rotherham Church, a cheap copy of which will shortly appear, and will well repay perusal. An instructive paper was also read by the Rev. J. Faucett, on "Churchyards," in the morning, and in the evening he delivered a lecture on "Church Architecture." The rev. gentleman took occasion to allude to the recent improvements and alterations that have been effected on the beautiful edifice at Rotherham, and paid a high compliment on the excellent arrangement of the same. At the request of several gentlemen, the Hon. Mr. Howard again produced the paper he had previously read, which was listened to with the greatest attention; and interest.

No doubt the inhabitants of Rotherham will be glad that the completion of this improvement is fast drawing to a close, but there still remains a good deal to be done before the whole will be entirely completed.

The subject as to the best situation for the organ, was brought before the members of the Yorkshire Architectural Society, when they unanimously decided upon the north transept as the most eligible. Messrs. Gray and Davison will have commenced the improvements and additions to the organ, and it is to be hoped in the course of a few weeks, the whole of the church service will be performed with its accustomed efficiency.—*Sheffield Mercury.*

KINGSTON CHURCH, HANTS.

(From a Correspondent.)

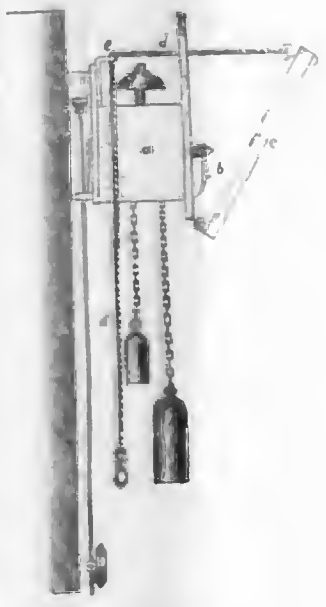
A church is now being erected in the parish of Portsea, Hants, by Mr. D. Nicholson, under the directions of W. Moseley, Esq., architect. The style is Gothic; the walls are faced with flint, with projecting buttresses; the external angles being of Caen stone, and the internal of white brick. The doorways, window-jambs, mullions, &c., are also of Caen stone. The western doorway, which forms the principal entrance, is worthy of notice, it being of a neat and chaste design. The interior when finished will doubtless have a very light appearance. The principal roof, which is skeleton framed, is supported on octagonal pillars, from the capitals of which spring Gothic arches. The chancel, which is spacious, will have a groined ceiling, and will give to the church a noble appearance.

The foundation-stone was laid on Thursday, the 31st day of August, 1843, by the Lord Bishop of Winchester, who was attended on the occasion by a lengthened procession, in which the mayor and corporation of the borough formed a prominent part. His lordship on his arrival at the site of the building, expressed his approbation of the progress being made in very high terms, and to testify the sincere regard he bore towards the sacred edifice, presented the Rev. the Vicar with 5*l.*, in addition to his former very handsome donation of 50*l.*

The Saw.—The saw is an instrument of the most remote antiquity, and its advantages were so well appreciated by the ancients, that they ranked the inventor amongst the Gods. The discovery is attributed to the accidental use of the jaw bone of a snake in cutting through a piece of wood. This is not improbable, as some snakes have teeth of that kind, and in some of the islands in the Pacific Ocean, the natives make use of the serrated bones of fish for a similar purpose. The form of the ancient saw has been accurately shewn in a curious relic found in the ruins of Herculaneum. It is a painting in which are represented two genii in the act of sawing a piece of timber; the plank is extended on a long bench, to which it is fastened with cramp-irons, and over one end of which it projects. One of the operators is standing, the other seated on the ground, performing the operation with a frame-saw, which appears in every respect similar to that now in use. The blade is fixed in a square frame (the handles being formed as at present), and the teeth stand perpendicular to the plane of the frame. The cramps are shaped like the figure 7, which is the form still adopted in some kinds of work; and the bench itself bears a strong resemblance to the modern carpenter's table.

DESCRIPTION OF A SIMPLE APPARATUS FOR WATCHMEN.

From some of the recent fires we have learnt how important it is that premises in which combustible matter is stored, or which from any cause are peculiarly liable to fire, should be visited from time to time during the night, so that early notice be given of the outbreak of fire, and timely attempts be made to to check its progress. The appointment of watchmen will not of itself suffice, simply because, to ensure the performance of their duty, watchers must be set over them. Some ingenious contrivance for controlling watchmen, and checking, as it were, the discharge of their duties, have from time to time been invented. One quite infallible is, we believe, in use at the India House. The following, of which we read in the *Polytechnisches Central Blatt*, will answer the purpose when watchmen of ordinary intelligence are to be dealt with:—



This figure presents a profile of the apparatus. A clock, *a*, of the simplest kind, is attached to a wall at a sufficient height to be above the reach of the watchman, or of any instrument he may hold in his hand. The hour hand, *b*—and it may be observed that a minute hand is not necessary in a tell-tale apparatus,—is curved at its extremity, downwards, towards the face of the clock, without, however, touching it, and is provided with a pin, fixed at right angles in it. A thin, flat piece of wood, *c*, rather larger than the face of the clock, is fastened by a hinge to the lower part of it, and by means of the rope *d e d* running over a pulley at *e*, may be drawn up from a perpendicular position until it presses against the pin on the outward surface of the hour hand *b*. A piece of paper of the same form as the dial-plate, having the figures 1—12, marked on it in such a manner, that the numbers of the one cover the numbers of the other, when the paper is applied concentrically to the dial-plate, is pasted or pinned on, each time that the apparatus is to be used. If the rope *d e d* be pulled until the board *c* be pressed forcibly against the pin on the hour-hand, the point of the hour-hand will pierce a hole in the paper, and, as the hour-hand is elastic, it will resume its position when the pressure of the board *c* is removed. The hole thus pierced will denote the hour at which the rope has been pulled; and the number of holes in the paper will tell how often, and at what hours, the rope has been pulled. The watchman should be ordered to pull the rope each time that he goes his round, when the paper will of course shew how often and at what hours he has gone his round. If it be desirable that he go into several places once during each hour of the night, a separate apparatus may be put up in each, and each clock may be put a certain number of minutes slower than the preceding one on the watchman's beat. The expense, it is obvious, will be comparatively trifling.